

DUAL LINE INTEGRATING LINE SCAN SENSOR

ABSTRACT OF THE INVENTION

A line scan sensor includes first and second rows of pixels, corresponding first and second readout registers, and a first clocking structure disposed between the first row of pixels and the first readout register. The first clocking structure includes a transfer gate electrode and a delay well electrode. In an alternative embodiment, a method includes a first step followed by a second step. The first step includes transferring photo charges in a delay register into a first readout register, transferring photo charges in a first storage register into the delay register, and transferring photo charges in a second storage register into the second readout register. The second step includes collecting photo charges in the first storage register, collecting photo charges in the second storage register, shifting photo charges in a first readout register toward a first output, and shifting photo charges in a second readout register toward a second output.